



CLUSTER UNIVERSITY SRINAGAR

SYLLABUS (FYUP UNDER NEP 2020)

Offered By Department Of STATISTICS

Semester 1st (Major Course)

Course Title: Descriptive Statistics-I

Course Code: UGSTA22J101

Credits: 4 (Theory: 3, Practical: 1)

Contact Hrs: 75 (Theory: 45, Practical: 30)

Max. Marks 100

Theory External: 60; Min Marks: 24

Theory Internal (Continuous Assessment): 15 Marks, Min Marks: 06

Practical Experimental Basis= 15, Min. Marks: 06

Practical Experimental (Continuous assessment) = 10, Min. Marks: 04

Objective:

1. To develop in students ability to identify the area of population, the art of collection of data, meaningful segregation, presentation of data and interpretation of collected data so as to deal with data analysis.
2. To handle various types of data and their graphical representation. To use the data for further analysis using measures of central tendency.
3. To find the summary measures, viz. measure of dispersion.

Course Outcome: After completing the course, a student will have:

- Knowledge of Statistics, its scope and importance in various fields.
- Ability to understand concepts of sample vs population and different types of data.
- Knowledge of methods for summarising data sets, including common graphical tools (such as boxplots, histograms and stem plots), Interpret histogram and boxplots.
- Ability to describe data with measures of central tendency and measures of dispersion.

Unit I:

15 Hrs

Introduction to Statistics and Basic Concepts: Data: Primary and secondary data, different methods of collection of primary data with merits and demerits. Sources of secondary data. Classification: Meaning, objectives of classification- Chronological, Geographical, Qualitative and Quantitative classifications with illustrations. Formation of discrete and continuous frequency distributions.

Tabulation: Format of a statistical table and its parts. Types of table, examples of preparation of a blank table and tables with numerical information.

Diagrammatic and Graphical representation of Data: Diagrams: Meaning, importance of diagrams and general rules of construction of diagrams. Types of Diagrams- simple, multiple, component, percentage bar diagrams and pie diagrams with simple illustrations.

Graphs: Types of Graphs-Histogram, Frequency polygon curve and Ogives, simple problems, location of mode, median and partition values from the graphs, Difference between diagrams and graphs.

Unit II:

15 Hrs

Measures of Central Tendency: Meaning of central tendency and essentials of a good measure of central tendency. Types of measures of central tendency: Arithmetic mean, Median, Mode, Geometric mean and Harmonic mean- definition, merits and demerits, Properties of arithmetic mean, Empirical relation between mean, median and mode. Problems on both grouped and ungrouped data for all the measures.

Unit III:

15 Hrs

Measures of Dispersion: Meaning and objectives of measures of dispersion. Essentials of a good measure of dispersion, absolute and relative measures of dispersion. Types of measures of dispersion- Range, Quartile deviation, Mean deviation and standard deviation with relative measures-definition, merits and demerits. Properties of Standard deviation, simple problems on ungrouped and grouped data.

PRACTICAL

30 Hrs

List of Practicals (Preferably through computers)

1. Problems based on graphical representation of data or Histogram, Frequency polygons, frequency curves and Ogives, Stem and Leaf Plot, Box Plot.
2. Problems based on calculations of Measures of Central Tendency.
Problems based on calculations of Measures of Dispersion.

References:

1. Gupta S.C, Fundamentals of Statistics, Himalaya Publishing House, Bombay.
2. Mukhopadhaya, P. Applied Statistics, New Central Book Agency (P) Ltd., Calcutta.
3. Gupta, S.C. and Kapoor, V.K. (2000). Fundamentals of Mathematical Statistics (10th ed.), Sultan Chand and Sons.
4. Goon, A.M., Gupta, M.K. and Dasgupta, B. (2013). Fundamental of Statistics, Vol I, World Press, Kolkata.
5. Goon, A.M., Gupta, M.K. and Dasgupta, B. (2011). Fundamental of Statistics, Vol II, World Press, Kolkata.
6. Hangal, D.D. (2009), Introduction o Applied Statistics: A Non-Calculus Based Approach. Narosa Publishing Comp. New Delhi.
7. Miller, I. and Miller, M. (2006). John E. Fruend'd Mathematical Statistics with Applications, (7th Edn.), Pearson Education Asia.
8. Mood, A.M. Graybill, F.A and Boes, D.C. (2011). Introduction to the Theory of Statistics, 3rd Edn., Tata McGraw-Hill Pub. Co.Ltd.
9. Bhat B. R, Srivenkataramana T and Rao Madhava K. S (1997): Statistics: A Beginner's Text, Vol 1, New Age International (P) Ltd.
- 10.Das N,G. Statistical Methods Vol I, McGraw Hill Education India.
- 11.Croxton F. E. Cowden D.J and Kelin S (1973): Applied General Statistics, Prentice Hall of India
- 12.Fruend J.E (2001): Mathematical Statistics, Prentice Hall of India.
- 13.Croxton F. E. Cowden D.J and Kelin S (1973): Applied General Statistics, Prentice Hall of India